

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the present application.

IN THE CLAIMS:

Claims 1-15. (Canceled).

Claim 16. (Currently Amended) A DNA synthesis reaction composition comprising a the DNA synthesis reaction-enhancer of claim 1 comprising at least one kind selected from the group consisting of:

- 1) transition metal complex, and
- 2) water-soluble acidic macromolecular substances or water-soluble salts thereof, wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, dextran sulfate, carrageenan, heparin, rhamnam sulfate, dermatan sulfate (chondroitin sulfate B), heparan sulfate, hyaluronic acid, alginic acid, pectin, polyglutamic acids, polyacrylic acids, polyvinyl sulfates, polystyrene sulfates, and DNAs which do not serve as templates for subject DNA synthesis or as primers,

wherein said DNA synthesis reaction composition enhances DNA synthesis, and

wherein said DNA synthesis reaction composition further comprises a DNA polymerase and components necessary for DNA synthesis using DNA polymerase.

Claim 17. (Canceled).

Claim 18. (Currently Amended) The DNA synthesis reaction composition according to claim 17-16, wherein the composition comprises two or more kinds of DNA polymerases.

Claims 19-20. (Canceled).

Claim 21. (Currently Amended) The DNA synthesis reaction composition according to claim 18, wherein the composition comprises one DNA polymerase having 3'→5' exonuclease activity, and one the other DNA polymerase having no 3'→5' exonuclease activity.

Claim 22. (Currently Amended) A DNA synthesis reaction composition comprising two or more kinds of DNA polymerases each

having 3' → 5' exonuclease activity which is not reduced in comparison to wild-type DNA polymerase.

23. (Original) The DNA synthesis reaction composition according to claim 22, wherein the composition comprises α-type DNA polymerase and non-α, non-polI type DNA polymerase.

Claims 24-30. (Canceled).

31. (Currently Amended) A kit for use in *in vitro* DNA synthesis, wherein the kit comprises the DNA synthesis reaction composition ~~reaction enhancer~~ of claim 16 1-and-DNA polymerase.

32. (Original) The kit according to claim 31, further comprising a reagent usable for DNA synthesis.

33. (Previously Presented) The kit according to claim 31, which comprises two or more kinds of DNA polymerase.

34. (Previously Presented) The kit according to claim 31, wherein said DNA polymerase is a thermostable DNA polymerase.

35. (Previously Presented) The DNA synthesis reaction composition according to claim 22, further comprising a DNA synthesis reaction-enhancer, wherein said DNA synthesis reaction-enhancer comprises at least one kind selected from the group consisting of cationic complexes and water-soluble acidic macromolecular substances, and wherein said water-soluble acidic macromolecular substances are one or more substances selected from the group consisting of sulfated-fucose-containing polysaccharides, dextran sulfate, carrageenan, heparin, rhamnam sulfate, dermatan sulfate (chondroitin sulfate B), heparan sulfate, hyaluronic acid, alginic acid, pectin, polyglutamic acids, polyacrylic acids, polyvinyl sulfates, polystyrene sulfates, DNAs which do not serve as templates for subject DNA synthesis, and salts thereof.